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 NEWS  7  DEC 21   IPC search and display fields enhanced in CA/CAplus with the
                   IPC reform
 NEWS  8  DEC 23   New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
                   USPAT2
 NEWS  9  JAN 13   IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
 NEWS 10  JAN 13   New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
                   INPADOC
 NEWS 11  JAN 17   Pre-1988 INPI data added to MARPAT
 NEWS 12  JAN 17   IPC 8 in the WPI family of databases including WPIFV
 NEWS 13  JAN 30   Saved answer limit increased
 NEWS 14  JAN 31   Monthly current-awareness alert (SDI) frequency
                   added to TULSA

 NEWS EXPRESS  FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
               CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
               V8.0 AND V8.01 USERS CAN OBTAIN THE UPGRADE TO V8.01a AT
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FILE 'HOME' ENTERED AT 13:00:52 ON 21 FEB 2006

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FILE 'BIOSIS' ENTERED AT 13:01:04 ON 21 FEB 2006

=> HSB
L1 974 HSB

=> HSV
L2 26341 HSV

=> DNA (s) vaccine
L3 12768 DNA (S) VACCINE

=> L2 and L3
L4 229 L2 AND L3

=> gold and l4
L5 4 GOLD AND L4

=> D L5 IBIB ABS 1-5

L5 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:360969 CAPLUS
DOCUMENT NUMBER: 140:386653
TITLE: Protective DNA vaccination by particle bombardment using BAC DNA containing a replication-competent, packaging-defective genome of herpes simplex virus type I
AUTHOR(S): Suter, Mark; Hefti, Hans Peter
CORPORATE SOURCE: Institute of Virology, University of Zuerich, Zurich, Switz.
SOURCE: Methods in Molecular Biology (Totowa, NJ, United States) (2004), 256(Bacterial Artificial Chromosomes, Volume 2), 303-308
CODEN: MMBIED; ISSN: 1064-3745
PUBLISHER: Humana Press Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Recently, the entire genome of herpes simplex virus type I lacking the cleavage/packaging signals was cloned in a bacterial artificial chromosome (BAC), called fHSV-1Δ pac. FHSV-1 pac DNA encodes a noninfectious replication unit of **HSV**-1 and appears to be safe for DNA vaccination. Moreover, multiple antigens, may be encoded in BACs to broaden the immune response. The most efficient system for DNA delivery used for BAC-VAC was particle bombardment. Procedures for loading of fHSV-1Δ DNA onto **gold** particles and particle bombardment for DNA delivery are described.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:107056 CAPLUS
DOCUMENT NUMBER: 136:166049
TITLE: Molecular vaccine linking intercellular spreading protein to an antigen
INVENTOR(S): Wu, Tzyy-Choou; Hung, Chien-Fu
PATENT ASSIGNEE(S): The Johns Hopkins University, USA
SOURCE: PCT Int. Appl., 102 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002009645	A2	20020207	WO 2001-US23966	20010801
WO 2002009645	A3	20021017		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001090520	A5	20020213	AU 2001-90520		20010801
US 2004028693	A1	20040212	US 2003-343719		20030808
PRIORITY APPLN. INFO.:			US 2000-222185P	P	20000801
			US 2001-268575P	P	20010215
			US 2001-281004P	P	20010404
			WO 2001-US23966	W	20010801

AB Superior mol. **vaccines** comprise nucleic acids, including naked **DNA** and replicon RNA, that encode a fusion polypeptide that includes an antigenic peptide or polypeptide against which an immune response is desired. Fused to the antigenic peptide is an intercellular spreading protein, in particular a herpes virus protein VP22 or a homolog or functional derivative thereof. Preferred spreading proteins are VP22 from **HSV**-1 and Marek's disease virus. The nucleic acid can encode any antigenic epitope of interest, preferably an epitope that is processed and presented by MHC class I proteins. Antigens of pathogenic organisms and cells such as tumor cells are preferred. Vaccines comprising HPV-16 E7 oncoprotein are exemplified. Also disclosed are methods of using the vaccines to induce heightened T cell mediated immunity, in particular by cytotoxic T lymphocytes, leading to protection from or treatment of a tumor.

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	1999:728926 CAPLUS
DOCUMENT NUMBER:	132:48709
TITLE:	BAC-VAC, a novel generation of (**DNA**) **vaccines**: A bacterial artificial chromosome (BAC) containing a replication-competent, packaging-defective virus genome induces protective immunity against herpes simplex virus 1
AUTHOR(S):	Suter, Mark; Lew, Andrew M.; Grob, Philipp; Adema, Gosse J.; Ackermann, Mathias; Shortman, Ken; Fraefel, Cornel
CORPORATE SOURCE:	Institute of Virology, University of Zurich, Zurich, CH-8057, Switz.
SOURCE:	Proceedings of the National Academy of Sciences of the United States of America (1999), 96(22), 12697-12702 CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER:	National Academy of Sciences
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB This study aimed to exploit bacterial artificial chromosomes (BAC) as large antigen-capacity **DNA vaccines** (BAC-VAC) against complex pathogens, such as herpes simplex virus 1 (**HSV**-1). The 152-kbp **HSV**-1 genome recently has been cloned as an F-plasmid-based BAC in Escherichia coli (fHSV), which can efficiently produce infectious virus progeny upon transfection into mammalian cells. A safe modification of fHSV, fHSVΔpac, does not give rise to progeny virus because the signals necessary to package DNA into virions have been excluded. However, in mammalian cells fHSVΔpac DNA can still replicate, express the **HSV**-1 genes, cause cytotoxic effects, and produce virus-like particles. Because these functions mimic the lytic cycle of the **HSV**-1 infection, fHSVΔpac was expected to stimulate the immune system as efficiently as a modified live virus vaccine. To test this hypothesis, mice were immunized with fHSVΔpac DNA applied intradermally by **gold**-particle bombardment, and the immune responses were compared with those induced by infection with disabled infectious single cycle **HSV**-1. Immunization with either fHSVΔpac or disabled infectious single cycle **HSV**-1 induced the priming of **HSV**-1-specific cytotoxic T cells and the production of virus-specific antibodies and conferred protection against intracerebral injection of wild-type **HSV**-1 at a dose of 200

LD50. Protection probably was cell-mediated, as transfer of serum from immunized mice did not protect naive animals. We conclude that BAC-VACs per se, or in combination with genetic elements that support replicative amplification of the DNA in the cell nucleus, represent a useful new generation of DNA-based vaccination strategies for many viral and nonviral antigens.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 4 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2000:31163 BIOSIS
DOCUMENT NUMBER: PREV200000031163
TITLE: BAC-VAC, a novel generation of (**DNA**) **vaccines**: A bacterial artificial chromosome (BAC) containing a replication-competent, packaging-defective virus genome induces protective immunity against herpes simplex virus 1.
AUTHOR(S): Suter, Mark [Reprint author]; Lew, Andrew M.; Grob, Philipp; Adema, Gosse J.; Ackermann, Mathias; Shortman, Ken; Fraefel, Cornel
CORPORATE SOURCE: Institute of Virology, University of Zurich, Winterthurerstrasse 266a, CH-8057, Zurich, Switzerland
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (Oct. 26, 1999) Vol. 96, No. 22, pp. 12697-12702. print.
CODEN: PNASA6. ISSN: 0027-8424.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 13 Jan 2000
Last Updated on STN: 31 Dec 2001

AB This study aimed to exploit bacterial artificial chromosomes (BAC) as large antigen-capacity **DNA vaccines** (BAC-VAC) against complex pathogens, such as herpes simplex virus 1 (**HSV**-1). The 152-kbp **HSV**-1 genome recently has been cloned as an F-plasmid-based BAC in Escherichia coli (fHSV), which can efficiently produce infectious virus progeny upon transfection into mammalian cells. A safe modification of fHSV, fHSVDELTApac, does not give rise to progeny virus because the signals necessary to package DNA into virions have been excluded. However, in mammalian cells fHSVDELTApac DNA can still replicate, express the **HSV**-1 genes, cause cytotoxic effects, and produce virus-like particles. Because these functions mimic the lytic cycle of the **HSV**-1 infection, fHSVDELTApac was expected to stimulate the immune system as efficiently as a modified live virus vaccine. To test this hypothesis, mice were immunized with fHSVDELTApac DNA applied intradermally by **gold**-particle bombardment, and the immune responses were compared with those induced by infection with disabled infectious single cycle **HSV**-1. Immunization with either fHSVDELTApac or disabled infectious single cycle **HSV**-1 induced the priming of **HSV**-1-specific cytotoxic T cells and the production of virus-specific antibodies and conferred protection against intracerebral injection of wild-type **HSV**-1 at a dose of 200 LD50. Protection probably was cell-mediated, as transfer of serum from immunized mice did not protect naive animals. We conclude that BAC-VACs per se, or in combination with genetic elements that support replicative amplification of the DNA in the cell nucleus, represent a useful new generation of DNA-based vaccination strategies for many viral and nonviral antigens.

=> D history

(FILE 'HOME' ENTERED AT 13:00:52 ON 21 FEB 2006)

FILE 'CAPLUS, BIOSIS' ENTERED AT 13:01:04 ON 21 FEB 2006
L1 974 HSB
L2 26341 HSV
L3 12768 DNA (S) VACCINE
L4 229 L2 AND L3
L5 4 GOLD AND L4

=> particle and L4
L6 23 PARTICLE AND L4

=> "5 kilobase"
L7 4004 "5 KILOBASE"

=> cosmid and L6
L8 0 COSMID AND L6

=> plasmid and L6
L9 7 PLASMID AND L6

=> D L9 IBIB ABS 1-9

L9 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:560394 CAPLUS
DOCUMENT NUMBER: 139:99537
TITLE: **DNA vaccines**
AUTHOR(S): Prugnaud, J.-L.
CORPORATE SOURCE: Service de Pharmacie, Hopital Saint-Antoine, Paris, F75912, Fr.
SOURCE: Annales Pharmaceutiques Francaises (2003), 61(4), 219-233
CODEN: APFRAD; ISSN: 0003-4509
PUBLISHER: Masson Editeur
DOCUMENT TYPE: Journal; General Review
LANGUAGE: French
AB A review. **DNA** vaccination is a new **vaccine** approach used to induce an immune response to an antigen protein expressed in vivo. It is based on the introduction, via i.m. injections, **particle** bombardment, or nasal spray, of a purified DNA **plasmid** encoding for the polypeptide sequence. The resulting in situ protein synthesis involves biosynthetic processing and post-translational modifications. The effectiveness of **DNA vaccines** has been demonstrated in many animal models. Cell-mediated immunity (Th1 and Th2 responses) and humoral immunity can be obtained. B-cell production of antibodies is generally weaker than induced by traditional vaccines. Various approaches to boost the immune response have been studied, including co-administration of cytokines, co-stimulation with specific genes, and addition of targeting mols. Research with animal models has shown that **DNA vaccines** are safe. Deleterious immune responses, such as autoimmunity and development of tolerance in response to persistent expression of a foreign antigen, have not been observed Phase I and Phase II clin. trials with **DNA vaccines** have been conducted for HIV, HBV, HVC, **HSV**, tuberculosis, and malaria. Clin. trials are also in hand for cancer and the treatment of allergies. This new approach of DNA vaccination offers new hope because of their low cost and manufacturing stability at ambient temperature
REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:361577 CAPLUS
DOCUMENT NUMBER: 139:259610
TITLE: Cellular immune responses to helper-free **HSV** -1 amplicon **particles** encoding HIV-1 gp120 are enhanced by DNA priming
AUTHOR(S): Wang, Xiuqing; Wiley, Rebecca D.; Evans, Thomas G.; Bowers, William J.; Federoff, Howard J.; Dewhurst, Stephen
CORPORATE SOURCE: Department of Microbiology and Immunology, University of Rochester Medical Center, Rochester, NY, 14642, USA
SOURCE: Vaccine (2003), 21(19-20), 2288-2297
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A single inoculation of herpes simplex virus type-1 (**HSV**-1)

amplicon vectors encoding human immunodeficiency virus type-1 gp120 (**HSV**:gp120) results in robust, specific immune responses to gp120. To explore further the utility of this novel vaccine delivery system, we examined the kinetics of the cellular immune response by tetramer staining, following a single i.m. administration of **HSV**:gp120 **particles**, and found that it peaks at 9-28 days post-immunization, before declining to a stable memory response. We also examined the utility of prime-boost regimens using packaged amplicon **particles** and naked amplicon **plasmid** DNA (DNA:gp120). These expts. showed that two sequential immunizations with **HSV**:gp120 resulted in a 5-10-fold increase in gp120-specific cellular immune responses and that **plasmid** DNA priming, followed by amplicon **particle** boosting, imparted the strongest acute and memory T cell responses, as determined by tetramer anal. Collectively, these results demonstrate the utility of **HSV** amplicon vectors in prime-boost regimens for HIV vaccine development.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:107056 CAPLUS
DOCUMENT NUMBER: 136:166049
TITLE: Molecular vaccine linking intercellular spreading protein to an antigen
INVENTOR(S): Wu, Tzyy-Choou; Hung, Chien-Fu
PATENT ASSIGNEE(S): The Johns Hopkins University, USA
SOURCE: PCT Int. Appl., 102 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002009645	A2	20020207	WO 2001-US23966	20010801
WO 2002009645	A3	20021017		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001090520	A5	20020213	AU 2001-90520	20010801
US 2004028693	A1	20040212	US 2003-343719	20030808

PRIORITY APPLN. INFO.:

US 2000-222185P	P	20000801
US 2001-268575P	P	20010215
US 2001-281004P	P	20010404
WO 2001-US23966	W	20010801

AB Superior mol. **vaccines** comprise nucleic acids, including naked **DNA** and replicon RNA, that encode a fusion polypeptide that includes an antigenic peptide or polypeptide against which an immune response is desired. Fused to the antigenic peptide is an intercellular spreading protein, in particular a herpes virus protein VP22 or a homolog or functional derivative thereof. Preferred spreading proteins are VP22 from **HSV**-1 and Marek's disease virus. The nucleic acid can encode any antigenic epitope of interest, preferably an epitope that is processed and presented by MHC class I proteins. Antigens of pathogenic organisms and cells such as tumor cells are preferred. Vaccines comprising HPV-16 E7 oncoprotein are exemplified. Also disclosed are methods of using the vaccines to induce heightened T cell mediated immunity, in particular by cytotoxic T lymphocytes, leading to protection from or treatment of a tumor.

L9 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:728926 CAPLUS

DOCUMENT NUMBER: 132:48709
TITLE: BAC-VAC, a novel generation of (**DNA**) **vaccines**: A bacterial artificial chromosome (BAC) containing a replication-competent, packaging-defective virus genome induces protective immunity against herpes simplex virus 1
AUTHOR(S): Suter, Mark; Lew, Andrew M.; Grob, Philipp; Adema, Gosse J.; Ackermann, Mathias; Shortman, Ken; Fraefel, Cornel
CORPORATE SOURCE: Institute of Virology, University of Zurich, Zurich, CH-8057, Switz.
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1999), 96(22), 12697-12702
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This study aimed to exploit bacterial artificial chromosomes (BAC) as large antigen-capacity **DNA vaccines** (BAC-VAC) against complex pathogens, such as herpes simplex virus 1 (**HSV**-1). The 152-kbp **HSV**-1 genome recently has been cloned as an F-**plasmid**-based BAC in Escherichia coli (fHSV), which can efficiently produce infectious virus progeny upon transfection into mammalian cells. A safe modification of fHSV, fHSVΔpac, does not give rise to progeny virus because the signals necessary to package DNA into virions have been excluded. However, in mammalian cells fHSVΔpac DNA can still replicate, express the **HSV**-1 genes, cause cytotoxic effects, and produce virus-like **particles**. Because these functions mimic the lytic cycle of the **HSV**-1 infection, fHSVΔpac was expected to stimulate the immune system as efficiently as a modified live virus vaccine. To test this hypothesis, mice were immunized with fHSVΔpac DNA applied intradermally by gold-**particle** bombardment, and the immune responses were compared with those induced by infection with disabled infectious single cycle **HSV**-1. Immunization with either fHSVΔpac or disabled infectious single cycle **HSV**-1 induced the priming of **HSV**-1-specific cytotoxic T cells and the production of virus-specific antibodies and conferred protection against intracerebral injection of wild-type **HSV**-1 at a dose of 200 LD50. Protection probably was cell-mediated, as transfer of serum from immunized mice did not protect naive animals. We conclude that BAC-VACs per se, or in combination with genetic elements that support replicative amplification of the DNA in the cell nucleus, represent a useful new generation of DNA-based vaccination strategies for many viral and nonviral antigens.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 7 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2003:478243 BIOSIS
DOCUMENT NUMBER: PREV200300478243
TITLE: **DNA vaccines**.
Original Title: Les vaccins a ADN..
AUTHOR(S): Prugnaud, J.-L. [Reprint Author]
CORPORATE SOURCE: Service de Pharmacie, Hopital Saint-Antoine (Assistance Publique-Hopitaux de Paris), 184, Rue du Faubourg Saint-Antoine, F75012, Paris, France
SOURCE: Annales Pharmaceutiques Francaises, (Juillet 2003) Vol. 61, No. 4, pp. 219-233. print.
CODEN: APFRAD. ISSN: 0003-4509.
DOCUMENT TYPE: Article
General Review; (Literature Review)
LANGUAGE: French
ENTRY DATE: Entered STN: 15 Oct 2003
Last Updated on STN: 15 Oct 2003

AB **DNA** vaccination is a new **vaccine** approach used to induce an immune response to an antigen protein expressed in vivo. It is based on the introduction, via intramuscular injections, **particle** bombardment, or nasal spray, of a purified DNA **plasmid** encoding for the polypeptide sequence. The resulting in situ protein synthesis

involves biosynthetic processing and post-translational modifications. The effectiveness of **DNA vaccines** has been demonstrated in many animal models. Cell-mediated immunity (Th1 and Th2 responses) and humoral immunity can be obtained. B-cell production of antibodies is generally weaker than induced by traditional vaccines. Various approaches to boost the immune response have been studied, including co-administration of cytokines, co-stimulation with specific genes, and addition of targeting molecules. Research with animal models has shown that **DNA vaccines** are safe. Deleterious immune responses, such as autoimmunity and development of tolerance in response to persistent expression of a foreign antigen, have not been observed. Phase I and Phase II clinical trials with **DNA vaccines** have been conducted for HIV, HBV, HVC, **HSV**, tuberculosis, and malaria. Clinical trials are also in hand for cancer and the treatment of allergies. This new approach of DNA vaccination offers new hope because of their low cost and manufacturing stability at ambient temperature.

L9 ANSWER 6 OF 7 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:353757 BIOSIS
DOCUMENT NUMBER: PREV200200353757
TITLE: Vectors encoding CT and LT are potent Th1 adjuvants for **particle**-mediated **DNA vaccines**.
AUTHOR(S): Haynes, Joel R. [Reprint author]; Arrington, Joshua [Reprint author]; Braun, Ralph [Reprint author]; Dong, Lichun [Reprint author]; Fuller, Deborah [Reprint author]; Umlauf, Scott [Reprint author]; Wu, Mary [Reprint author]; Zielinski, Tammy [Reprint author]; Payne, Lendon [Reprint author]
CORPORATE SOURCE: PowderJect Vaccines, Inc., 585 Science Dr., Madison, WI, 53711, USA
SOURCE: FASEB Journal, (March 20, 2002) Vol. 16, No. 4, pp. A310. print.
Meeting Info.: Annual Meeting of the Professional Research Scientists on Experimental Biology. New Orleans, Louisiana, USA. April 20-24, 2002.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Jun 2002
Last Updated on STN: 26 Jun 2002

AB **Plasmid DNA** vectors encoding cholera toxin (CT) or the heat-labile enterotoxin from E. coli (LT) were identified to be potent Th1 adjuvants for **particle**-mediated (PowderJect) **DNA vaccines** without any detectable local or systemic toxic effects. Results to date are derived from experiments with **DNA vaccine** vectors from influenza virus, hepatitis B virus, **HSV**-2 and HIV-1 using mice and domestic pigs. Typical effects observed in mice following use of CT-encoding adjuvant vectors include a 10-100-fold reduction in the antigen-specific IgG1-to-IgG2a ratio and a 10-fold enhancement in CD8+ IFN-gamma ELISPOT responses. Following use of LT-encoding vectors, an even stronger Th1 effect was observed with a greater enhancement of T cell responses and a further reduction in the IgG1-to-IgG2a ratio resulting in a marked abundance of IgG2a versus IgG1 antibodies. In mice, the effect of CT and LT vector adjuvants on total IgG antibody levels was antigen dependent, but the IgG1-to-IgG2a ratio was always sharply reduced in adjuvant groups. In early studies in pigs, data are limited to antibody titers but a marked augmentation of influenza virus antigen-specific responses was observed. The use of **particle**-mediated **DNA vaccine** delivery to the skin allows for the realization of the full adjuvant potential of CT and LT adjuvants without any apparent local or systemic toxicity.

L9 ANSWER 7 OF 7 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2000:31163 BIOSIS
DOCUMENT NUMBER: PREV200000031163
TITLE: BAC-VAC, a novel generation of (**DNA**) **vaccines**: A bacterial artificial chromosome (BAC)

containing a replication-competent, packaging-defective virus genome induces protective immunity against herpes simplex virus 1.

AUTHOR(S): Suter, Mark [Reprint author]; Lew, Andrew M.; Grob, Philipp; Adema, Gosse J.; Ackermann, Mathias; Shortman, Ken; Fraefel, Cornel

CORPORATE SOURCE: Institute of Virology, University of Zurich, Winterthurerstrasse 266a, CH-8057, Zurich, Switzerland

SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (Oct. 26, 1999) Vol. 96, No. 22, pp. 12697-12702. print.
CODEN: PNASA6. ISSN: 0027-8424.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 13 Jan 2000
Last Updated on STN: 31 Dec 2001

AB This study aimed to exploit bacterial artificial chromosomes (BAC) as large antigen-capacity **DNA vaccines** (BAC-VAC) against complex pathogens, such as herpes simplex virus 1 (**HSV**-1). The 152-kbp **HSV**-1 genome recently has been cloned as an F-**plasmid**-based BAC in Escherichia coli (fHSV), which can efficiently produce infectious virus progeny upon transfection into mammalian cells. A safe modification of fHSV, fHSVDELTApac, does not give rise to progeny virus because the signals necessary to package DNA into virions have been excluded. However, in mammalian cells fHSVDELTApac DNA can still replicate, express the **HSV**-1 genes, cause cytotoxic effects, and produce virus-like **particles**. Because these functions mimic the lytic cycle of the **HSV**-1 infection, fHSVDELTApac was expected to stimulate the immune system as efficiently as a modified live virus vaccine. To test this hypothesis, mice were immunized with fHSVDELTApac DNA applied intradermally by gold-**particle** bombardment, and the immune responses were compared with those induced by infection with disabled infectious single cycle **HSV**-1. Immunization with either fHSVDELTApac or disabled infectious single cycle **HSV**-1 induced the priming of **HSV**-1-specific cytotoxic T cells and the production of virus-specific antibodies and conferred protection against intracerebral injection of wild-type **HSV**-1 at a dose of 200 LD50. Protection probably was cell-mediated, as transfer of serum from immunized mice did not protect naive animals. We conclude that BAC-VACs per se, or in combination with genetic elements that support replicative amplification of the DNA in the cell nucleus, represent a useful new generation of DNA-based vaccination strategies for many viral and nonviral antigens.